

CLAIMS

1-12. (canceled)

13. (previously presented) A method for preventing corrosion of an exposed metal surface of a metal layer at a bottom of a via hole through a dielectric layer of a semiconductor device during semiconductor processing, comprising:

depositing and selectively bonding a sacrificial protective layer overlying the exposed metal surface of the semiconductor device, wherein the sacrificial layer protects the exposed metal surface at the bottom of the via hole from deleterious effects until subsequent processing of the semiconductor device; and

subsequent processing of the semiconductor device, wherein the subsequent processing comprises a step of depositing a subsequent layer on the exposed metal surface, wherein the step of depositing the subsequent layer is begun without first removing the sacrificial layer and wherein the sacrificial protective layer is removed prior to completion of the step of depositing,

wherein the depositing and selectively bonding comprises applying a corrosion inhibitor in the vapor phase to form the sacrificial layer on the exposed metal layer surface and the sacrificial layer consists of a monolayer of corrosion inhibitor.

14. (canceled)

15. (previously presented) The method of claim 13, wherein the metal comprises copper.

16. (previously presented) The method of claim 13, wherein the subsequent processing comprises electroplating the metal layer with copper.

17. (canceled)

18. (previously presented) The method of claim 13, wherein the metal layer comprises aluminum.

19-30. (canceled)